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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/583,784	05/31/2000	Marcos N. Novaes	POU9-2000-0009-US1	4195

7590

12/04/2002

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EXAMINER

MAHMOUDI, HASSAN

ART UNIT

PAPER NUMBER

2175

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/583,784

Applicant(s)

CHUNG ET AL.

Examiner

Tony Mahmoudi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.

- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DOV POPOVICI
SUPERVISORY PATENT EXAMINER
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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 11-13, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dias et al (U.S. Patent No. 5,907,849) in view of Blott et al (U.S. Patent No. 6,449,618.)

As to claim 1, Dias et al teaches a method of recovery from failures within a shared nothing (see Abstract) distributed computing environment (see column 1, lines 52-56), the method comprising:

detecting a failure (see column 2, lines 46-49) within the shared nothing distributed computing environment (see column 2, lines 30-35, where “computing environment” is read on “database processing system”); and

recovering from the failure (see column 3, lines 23-28, and see column 4, lines 19-20.)

Dias et al does not teach automatically recovering from the failure, wherein one or more transactions affected by the failure are automatically executed to completion without rolling back the one or more transactions and without requiring a reposting of the one or more transactions.

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Blott et al teaches a real-time event processing system (see Abstract), in which he teaches automatically recovering from the failure (see column 8, lines 20-23, where “automatic event processing” is taught, and see column 27, lines 24-40, where “processing of events” include recovery of events from failure”), wherein one or more transactions affected by the failure are automatically executed to completion without rolling back the one or more transactions and without requiring a reposting of the one or more transactions (see column 26, lines 3-8.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Dias et al to include automatically recovering from the failure, wherein one or more transactions affected by the failure are automatically executed to completion without rolling back the one or more transactions and without requiring a reposting of the one or more transactions.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Dias et al by the teaching of Blott et al, because automatically recovering from the failure, wherein one or more transactions affected by the failure are automatically executed to completion without rolling back the one or more transactions and without requiring a reposting of the one or more transactions, would make the recovery process faster and more efficient by avoiding manual intervention, rollback, or reposting of the recovered transactions.

As to claim 2, Dias et al teaches a system of recovery from failures within a shared nothing (see Abstract) distributed computing environment (see column 1, lines 52-56), the system comprising:

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means for detecting a failure (see column 10, line 1) within the shared nothing distributed computing environment (see column 2, lines 30-35, where “computing environment” is read on “database processing system”); and

means for recovering from the failure (see column 12, lines 26-45.)

As to the remainder of claim 2, applicant is directed to the remarks and discussions made in claim 1 above.

As to claim 3, Dias et al teaches at least one program storage device readable by a machine (see figure 5), tangibly embodying at least one program of instructions executable by the machine to perform (see column 6, lines 9-16) a method of recovery from failures (see column 12, lines 26-45) within a shared nothing distributed computing environment (see column 2, lines 30-35, where “computing environment” is read on “database processing system”).

As to the remainder of claim 3, applicant is directed to the remarks and discussions made in claims 1 and 2 above.

As to claims 4, 11, and 18, Dias et al as modified teaches wherein the shared nothing distributed computing environment (see Dias et al, column 2, lines 30-35, where “computing environment” is read on “database processing system”) comprises a processing group with a plurality of members (see Dias et al, figure 1, and see column 2, lines 38-42), and wherein the detecting comprises detecting a failure of at least one of the plurality of members (see Dias et al, column 10, lines 1-4.)

As to claims 5, 12, and 19, Dias et al as modified teaches wherein the recovering comprises synchronizing messages regarding the one or more transactions among surviving members of the processing group (see Dias et al, column 5, lines 44-52.)

As to claims 6, 13, and 20, Dias et al as modified teaches wherein the recovering further comprises committing the one or more transactions (see Blott et al, column 26, lines 45-62.)

3. Claims 7-10, 14-17, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dias et al (U.S. Patent No. 5,907,849) in view of Blott et al (U.S. Patent No. 6,449,618) as applied to claims 1-6, 11-13, and 18-20 above, and further in view of Badovinatx et al (U.S. Patent No. 5,805,786.)

As to claims 7, 14, and 21, Dias et al as modified does not teach wherein at least one member of the processing group survives the failure, and wherein the recovering comprises electing a coordinator from among the at least one surviving member.

Badovinatx et al teaches recovery in a distributed computing environment (see Abstract), in which he teaches wherein at least one member of the processing group survives the failure, and wherein the recovering comprises electing a coordinator from among the at least one surviving member (see Badovinatx et al, column 6, lines 1-7.)

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Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Dias et al as modified to include wherein at least one member of the processing group survives the failure, and wherein the recovering comprises electing a coordinator from among the at least one surviving member.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Dias et al as modified, by the teaching of Badovinatx et al, because having at least one member of the processing group survives the failure, and wherein the recovering comprises electing a coordinator from among the at least one surviving member, would enable the system to pass the duties of the recovery node to at least one of the nodes which survived the failure, in order for the surviving node to recover the failed transactions.

As to claims 8, 15, and 22, Dias et al as modified teaches wherein the recovering further comprises receiving by the coordinator a list of one or more transactions from other surviving members (see Badovinatx et al, column 6, lines 15-23.)

As to claims 9, 16, and 23, Dias et al as modified teaches wherein the recovering further comprises receiving by the coordinator any commit protocol messages (see Badovinatx et al, column 4, line 58 through column 5, line 2) for the one or more transactions the coordinator does not already have (see Badovinatx et al, column 6, lines 50-67.)

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As to claims 10, 17, and 24, Dias et al as modified teaches wherein the coordinator initiates the commit protocol for the one or more transactions (see Badovinatz et al, column 4, lines 35-41, and column 6, lines 42-46.)

Response to Arguments

4. Applicant's arguments filed on 09-September-2002 with respect to claims 1-3, 5-6, 12-13, and 19-20 have been fully considered but they are moot in view of the new grounds of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of art with respect to methods and systems of failure detection and failure recovery in general:

U.S. Patent No. 5,555,404 to Torbjornsen et al.

U.S. Patent No. 6,157,927 to Schaefer et al.

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6. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Tony Mahmoudi whose telephone number is (703) 305-4887. The examiner can normally be reached on Mondays-Fridays from 08:00 am to 04:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici, can be reached at (703) 305-3830.

tm

November 20, 2002


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